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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/674,289	10/30/2000	Tapani Vuorinen	LAIN-033	6903
20374	7590	11/17/2004		
KUBOVCIK & KUBOVCIK SUITE 710 900 17TH STREET NW WASHINGTON, DC 20006				
EXAMINER ALVO, MARC S				
ART UNIT		PAPER NUMBER		
1731				

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/674,289	Applicant(s) VUORINEN, TAPANI
	Examiner Steve Alvo	Art Unit 1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-7,10,12-20 and 22-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-7,10,12-20 and 22-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5-7, 10, 12-14, 19-20 and 22-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over MIYAMOTO et al et al in view of ASHTON et al and RHA or the ADMITTED PRIOR ART (specification, page 1, lines 14-15) with or without HASSI et al.

MIYAMOTO et al et al teaches forming a fiber suspension, adding CMC having a D.S of 0.3 (column 4, line 37) and a degree of polymerization of 2000 (column 3, line 69) to modify the properties of the fibers and drying the fiber material, e.g. paper machine to make a paper. It would have been obvious to add the CMC of MIYAMOTO et al et al could be under alkaline conditions as ASHTON et al teaches that the pH is not important and can be 9.0 (column 3, lines 30-31). RHA et al teaches adding sizing agents, e.g. CMC, to paper pulp suspensions and teaches that the sizing agent can be added during the beating stage. It would have been obvious to the artisan to add the sizing agent of BATES et al during the beating stage as taught by RHA et al. Or the ADMITTED PRIOR ART teaches that it is known to add polymers prior to the paper machine. It would have been obvious to one of ordinary skill in the art that the CMC of BATES could have been added prior to the paper machine as the addition of additive to the slurry prior to paper formation is well known in the art as evidenced by the ADMITTED PRIOR ART. It would have been obvious to the routineer that the sizing agent also acts to bond the fibers as MIYAMOTO et al et al teaches that the modifying agents increase

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the mechanical properties, column 3, lines 1-4 and ASHTON teaches that it produces high strength papers (column 1, lines 15-20). If this is not obvious then HASSI teaches that sizing agents such as CMC also act as bonding agents.

Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over MIYAMOTO et al et al in view of ASHTON et al and RHA or the ADMITTED PRIOR ART (specification, page 1, lines 14-15) as applied to claim 1 above, and further in view of HASSI.

HASSI teaches that sizing agents such as CMC could be added during an alkaline peroxide bleach stage. It would have been obvious to add the modifying agents (sizing agents) of BATES during a peroxide bleach stage as such is taught by HASSI.

Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over MIYAMOTO et al et al in view of ASHTON et al with or without HASSI as applied to claim 1 above, and further in view of RHA et al.

RHA et al teaches adding sizing agents, e.g. CMC, to paper pulp suspensions and teaches that the sizing agent can be added during the beating stage. It would have been obvious to the artisan to add the sizing agent of BATES et al during the beating stage as taught by RHA et al.

Claim 1 would be given favorable consideration if rewritten as follows:

Claim 1, line 4, change "raw material" to --pulp--; lines 6 and 13, after "cellulose" add --pulp--; line 12, delete "an alkyl derivative of cellulose selected from"; line 18, change "the derivative is allowed to" to --at least 10% of the carboxymethylcellulose is--; line 21, change "cellulose derivative" to "carboxymethylcellulose".

None of the prior art teach modifying cellulose pulp fibers with soluble carboxymethylcellulose, having a DS 0.1 to 0.4 and a polymerization degree of about 600-5000, which is dissolved in an alkaline solution and then mixed into the fiber suspension at alkaline conditions, and at least 10% of the carboxymethylcellulose is bonded to the cellulose pulp fibers prior to the fibers being formed into a web and can not be washed off to produce a modified fiber product having strength suitable for printing paper and packaging material.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Alvo whose telephone number is 571-272-1185. The examiner can normally be reached on 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Steve Alvo
Primary Examiner
Art Unit 1731